

Claims 1, 7, and 11 are independent.

The Official Action discussed the proper format for an Abstract of the Disclosure.

Responsively, the abstract was reviewed and is believed to be proper as to form. However, a replacement abstract is provided which makes a formal amendment. The Official Action objected to the disclosure due to informalities.

Responsively, the specification has been amended as to form consistent with the noted informalities.

The Official Action rejected claims 1-6 under §112, second paragraph, as being indefinite.

The claims have been amended responsive to the rejection so as to remedy the stated basis of rejection. Therefore, reconsideration and withdrawal of the rejection are respectfully requested.

The Official Action rejected claim 1 under §102 as anticipated by BIEBUYCK et al. 5,855,994.

The Official Action rejected claims 2-3 under §103 as obvious over BIEBUYCK et al. in view of KING et al. 4,963,788.

The Official Action rejected claims 4-6 under §103 as obvious over BIEBUYCK et al. in view of SONEHARA et al. 5,105,289.

Applicant does not believe that the originally-filed claims are either anticipated or rendered obvious by the applied art. However, in the interest of expediting allowance of the

case, the claims have been amended to clarify the features of the invention.

Claim 1 is not believed to be anticipated by BIEBUYCK et al. See that claim 1 recites prism sheets provided between an image emitting surface and an image display surface. Further, the claim recites the prism sheets being divided so as to respectively correspond to display elements, {and that the prism sheets are provided with a prism surface on an exit surface so that light rays incident to the prism sheet exit in a vertical direction.}]

BIEBUYCK et al. do not disclose one or more prism sheets located between an image emitting surface and an image display surface. Rather, BIEBUYCK et al. only disclose a layer of encapsulated optical elements. There is no display surface located above the encapsulation layer.

The Official Action points to column 7, lines 18-25, for support that the illustrated encapsulated lenses of Figure 1 can be replaced with filters, e.g., prisms. However, this variation of Figure 1 would not result in the recited prism sheets divided to be respectively corresponding to display elements or is there disclosure that the prisms would include a prism surface on an exit side so as to result in vertically directed light therethrough.

Accordingly, reconsideration and withdrawal of the anticipation rejection are solicited.

As to the obviousness rejections, these are both not believed to be viable.

None of the three applied references teach a prism sheet divided into contacting and non-interfering areas respectively corresponding to only single ones of the display elements.

In particular as to claim 3, even though the prior art teaches the use of glass substrates and circularly polarizing filters, there is no suggestion to provide a prism sheet laminated therebetween.

Similarly, as to claims 5 and 6, the prior art makes no suggestion of using the recited prism sheet between a polarizing filter and an antireflection film or between an upper substrate sheet and a polarizing filter.

Accordingly, reconsideration and withdrawal of the obviousness rejections are solicited.

As to the newly-presented claims, the applied art is not believed to either anticipate or render obvious the recited inventive features.

Note, in particular, the recitation in claim 7 of the prism sheet being divided by separators into adjacent contacting prism areas for each of the red, blue, and green display elements, the separators ensuring that light from one display element passes only through a corresponding prism area and does not pass into any adjacent prism areas. Note also the final

recitation of the prism sheet structure whereby light enters a lower planar surface as scattered light rays and exits the prism in a vertical upward direction.

See that in independent claim 11, there is recited a color filter having separators separating each of the color filter elements from adjacent color filter elements so that light from each display element passes only through one color filter element. This claim also recites the prism sheet being divided by separators into adjacent prism areas, the separators ensuring that light from any one element of the color filter passes only through a corresponding prism area and does not pass into any adjacent prism areas. Finally, the claim includes the recitation concerning the structure of the prism sheet including a lower planar surface through which light enters as scattered light rays incident thereon and exits in a vertical direction.

In view of the above, applicant believes that the present application is in condition for allowance and an early indication of the same is respectfully requested.


KITAHARA S.N. 09/883,324

Attached hereto is a marked-up version showing the changes made to the abstract, specification and claims. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE."

Respectfully submitted,

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ABSTRACT OF THE DISCLOSURE

A' On a glass substrate, a prism sheet for condensing rays emitted from an emitting layer, a circularly polarizing filter, and an antireflection film are laminated. The prism sheet is provided for each of red, green and blue display elements of the emitting layer and is divided by separators so as not to interfere with one another. Control electrodes are laminated on and under the emitting layer. A positive pole is formed from ITO film and a hole carrying layer; and a negative pole is formed from a metal electrode and an electron carrying electrode.

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**"VERSION WITH MARKINGS TO SHOW CHANGES MADE"**

ABSTRACT OF THE DISCLOSURE

The Abstract of the Disclosure has been amended as follows:

On a glass substrate, a prism sheet for condensing rays emitted from an emitting layer, a circularly polarizing filter, and an antireflection film are laminated. The prism sheet is provided for each of red, green and blue display elements of the emitting layer and is divided by separators so as not to interfere with one another. Control electrodes are laminated on and under the emitting layer. A positive pole is formed from ITO film and a hole carrying layer; and a negative pole is formed from a metal electrode and an electron carrying electrode.

IN THE SPECIFICATION:

Page 1, the paragraph, beginning on line 25, bridging pages 1 and 2, has been amended as follows:

--Figure 5 is a view showing a principle in which radiant light rays from a conventional transmissive liquid crystal backlight are condensed using the prism sheet. A light ray 302 from a light source 314 is reflected by a reflecting plate 315 in one direction and an optical path is changed in an upward direction while passing through a light-introducing plate 316. Then, the light ray [102] 302 is condensed in a vertical upward direction by a prism sheet 303 provided on the light-

introducing plate 316 and is projected to an upward liquid crystal incident surface (not shown).--

Page 7, the paragraph, beginning on line 1, has been amended as follows:

--Figure 2 is a schematic sectional view showing an image display apparatus of an organic EL display type provided with the prism sheet according to the first embodiment of the present invention. In Fig. 2, a prism sheet 103 for condensing light rays 102 emitted from an emitting layer 106 is put [on] between a glass substrate 109 and a circularly polarizing filter 111, and an antireflection film 110 for protecting reflection of outer light rays are put on the prism sheet 103. The prism sheet 103 is divided for a red display element, a blue display element, and a green display element of the emitting layer 106 and is respectively divided by separators so as not to interfere with one another. On an upper side and a lower side of the emitting layer 106, control electrodes (not shown) for emitting the emitting layer 106 and for controlling luminance are laminated so that the emitting layer 106 is put between the control electrodes. As to the control electrodes, a positive pole is provided in the upper side of the emitting layer 106 and a negative pole is provided in the lower side of the emitting layer 106. Since it is necessary for the positive pole to penetrate the light rays 102 emitted from the emitting layer 106, an electrode is formed by an ITO film 108 and a hole carrying layer 107 which

are transparent electrodes. The negative pole is formed by a metal electrode 104 and an electron carrying layer 105 that are formed from metal.--.

IN THE CLAIMS:

Claim 1 has been amended as follows:

--1. (amended) An image display apparatus comprising:  
one or more prism sheets provided between an image emitting surface of an image generating part in said image display apparatus and an image display surface of said image display apparatus,

the one or more prism sheets being divided so as to be respectively corresponded to display elements that are minimum display units forming an image, and

the one or more prism sheets provided with a prism surface on an exit surface so that light rays incident on an incident surface exit in [an approximately] a vertical direction of said incident surface.--

Claim 2 has been amended as follows:

--2. (amended) The image display apparatus according to Claim 1, wherein said image display apparatus is an organic electroluminescence display and comprises a metal electrode layer, an electron carrying layer formed on an upper surface of said metal electrode layer, an emitting layer formed on an upper surface of said electron carrying layer, a hole carrying layer

formed on an upper surface of said emitting layer, an Indium Tin Oxide film formed on an upper surface of said hole carrying layer, a glass substrate arranged on an upper surface of said Indium Tin Oxide film and [an] a circularly polarizing filter and an antireflection film arranged on an upper surface of said glass substrate, and wherein said prism sheet is provided between said Indium Tin Oxide film and said antireflection film, is divided into contacting and non-interfering areas so as to be respectively corresponded to only single ones of the display elements that are minimum display units forming an image of said emitting layer and is provided with a prism surface on an exit surface so that light rays incident on an incident surface output in [an approximately] a vertical direction of said incident surface.--

Claim 3 has been amended as follows:

--3. (amended) The image display apparatus according to Claim 2, wherein said prism sheet is [provided] laminated between said glass substrate and said circularly polarizing filter.--

Claim 4 has been amended as follows:

--4. (amended) The image display apparatus according to Claim 1, wherein said image display apparatus is a liquid crystal display and comprises a lower substrate part including a first glass substrate, a first polarizing filter formed under a lower surface of said first glass substrate, and a first Indium Tin

Oxide film formed on an upper surface of said glass substrate and provided with display elements that are minimum display units forming an image in a matrix, a light-introducing plate arranged under a lower surface of said lower substrate part, a light source arranged adjacently to said light-introducing plate, an upper substrate part including a second glass substrate, a color filter divided so as to be respectively corresponded to said display elements that are said minimum display units forming said image and formed on said second glass substrate and a second Indium Tin Oxide film that is a common electrode formed under a lower side of said second glass substrate, liquid crystal elements arranged between said lower substrate part and said upper substrate part, a second polarizing filter provided on an upper surface of said upper substrate part and antireflection film provided on said second polarizing filter, and wherein said prism sheet is provided between said upper substrate part and said antireflection film, is divided into contacting and non-interfering areas so as to be respectively corresponded to said display elements that are minimum display units forming an image and is provided with a prism surface on an exit surface so that light rays incident on an incident surface exit in [an approximately] a vertical direction of said incident surface.--